

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2005/006687

International filing date (day/month/year)
28.03.2005

Priority date (day/month/year)
01.04.2004

International Patent Classification (IPC) or both national classification and IPC
H04L12/56

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-9

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|-----|
| Novelty (N) | Yes: Claims | 1-9 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-9 |
| Industrial applicability (IA) | Yes: Claims | 1-9 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

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Re Item IV

Lack of unity of invention

1. Reference is made to the following documents. Their numbering will be adhered to in the rest of the procedure:

- D1:** LINKSYS: "EtherFast Cable/DSL Router with QoS and 8-Port Switch (BEFSR81 User Guide)" LINKSYS, 2003, XP002335011
- D2:** EP-A-1 313 274 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) 21 May 2003 (2003-05-21)
- D3:** WO 03/034763 A (MOTOROLA INC; DELOUME, PASCAL, STEPHANE; GARANI, PRADEEP) 24 April 2003 (2003-04-24)

2. It is considered that the following four separated inventions or groups of inventions are claimed in the present application:

Invention 1:

Claims 1 to 9 are directed to a packet-relay unit comprising a first and a second network interfaces (NI), a function setting-switch for setting quality guarantee to packets fed into the second NI by the first NI, wherein said second NI comprises a classifying unit adapted to either send said packet directly to the transceiver of said second NI, if the quality guarantee for said packet is not set, or send the packet to the transceiver via a priority control unit, if the quality guarantee for said packet is set.

Invention 2:

Claims 10 to 14 are directed to a packet-relay unit comprising a first and a second network interfaces (NI), a first switch for setting quality guarantee to packets fed into the second NI by the first NI and a marker adapted to increase or decrease the priority of the packet depending on the setting given to the packets by said first switch.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Claims 1 to 14 lack of unity **a posteriori** (see PCT Guidelines III, 7.6) for the following reasons:

Independent claims 1 and 10 merely share the common concept of a packet-relay unit comprising a first and a second network interfaces (NI) and a switch for setting quality guarantee to packets fed into the second NI by the first NI. However, said concept is not new, being already disclosed in document **D1** (see in particular the passages cited in the International Search Report). Thus, the independent claims are not linked by a single general inventive concept.

The claims can be grouped according to their special technical features, which make up the contribution of the respective invention over the prior art, as follows:

Claims 1 to 9 resolve the problem of controlling the flow of the prioritised packet by sending said packet to the second NI transceiver via a priority control unit if the priority of the packets is set.

Claims 10 to 14 resolve the problem of determining the priority of the transmitted packet by increasing or decreasing the priority according to the setting given by the switch.

The above inventions 1 and 2 do not solve the same technical problem and do not share any special technical features within the meaning of Rule 13.2 PCT, second sentence. Consequently, the set of claims does not satisfy the requirement of unity of invention, Rule 13 PCT.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

3. Document **D2** (see in particular the passages cited in the International Search Report) discloses, according to the main features of **claim 1**, a packet-relay unit (see figure 2) comprising;

- a first network interface unit connected to first communication equipment through a first transmission medium (see "Packet Receiving Section" 25 in figure 2); and
- a second network interface unit connected to second communication equipment through a second transmission medium (see "Transmission Control Section 27 and "Packet Transmitting Section" 28 in figure 2);

wherein said second network interface unit includes;

- a classifying unit operable to classify the packets (see "Packet Classification Section" 29 in figure 2);
- a priority control unit operable to provide priority control over the packets such that the packets outputted from said second network interface unit are preferentially treated at a communication zone between said second network interface unit and the second communication equipment (see in particular "Priority Queue" 210 and "Scheduling Section" 212 in figure 2); and
- a transceiving unit operable to perform packet transmitting and receiving through the second transmission medium (see "Packet Transmitting Section" 28 in figure 2),

wherein said classifying unit transfers the packets from said first network interface unit to said priority control unit, and said priority control unit provides the priority control over the packets transferred from said classifying unit, whereby the packets subjected to the priority control are transferred to said transceiving unit from said priority control unit (see in particular figure 4, Priority part), and wherein said classifying unit transfers the packets from said first network interface unit to said transceiving unit (see in particular figure 4, Non-Priority part).

and

- a function-setting switch operable to set a quality guarantee to packets fed into said first network interface unit from the first communication equipment,

The subject-matter of claim 1 differs from the disclosure of document D2 in that the Quality of Service (QoS) is controlled by a switch on the unit and not by information inserted in the packet. In this case described by document D2, the user has not the possibility to exclude or reduce the QoS function of the unit.

The problem to be solved by the present invention may be regarded as to allow the user to enable or disable the QoS.

In consulting the prior art in the general field of QoS settings, the skilled person, wishing to find a solution to overcome the above mentioned problem and bearing in mind the disclosure of document D2, would come across document **D3** (see in particular the passages cited in the International Search Report), which discloses a unit giving the user the possibility to change the QoS settings by means of soft-keys.

For the skilled person, therefore, starting from the unit described in document D2 and being aware both of the above mentioned problem and of the principle of the solution described in document D3, it would be obvious to apply said principle of document D3 to the unit of document D2 in order to arrive, without the exercise of inventive skill, at the unit of claim 1.

The subject-matter of claim 1 therefore does **not** involve an inventive step, Article 33(1), (3) PCT.

4. Dependent **claims 2 to 9** do not contain any additional features which, in combination with the features of the claims to which they respectively refer, meet the requirement of the PCT with respect to inventive step (see Article 33 (1) and (3) PCT) for the reason that the subject-matter of said claims is **either** in principle derivable from the disclosure of document **D2** or document **D3** **or** represents simple design details which are generally known to the person skilled in the art.

Due to the above reasons, dependent claims 2 to 9 do **not** meet the requirement of Article 33 PCT.

Re Item VII

Certain defects in the international application

5. Should the Applicant intend to file a new set of claims, the following requirements

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- 5.8 The Applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT.
- 5.9 Any information the Applicant may wish to submit concerning the subject-matter of the invention, for example further details of its advantages or of the problem it solves, and for which there is no basis in the application as filed, should be confined to the letter of reply and not be incorporated into the application (see Article 34(2)(b) PCT).
- 5.10 Moreover, the Applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT the examiner is not permitted to carry out any amendments under the PCT procedure, however minor these may be.